

## **FILE A - For Optional Classroom Use**

Science and Technology:

Released Items ..... A-2

Social Studies:

Released Items ..... A-14

Mathematics:

Released Items ..... A-27

Visual and Performing Arts:

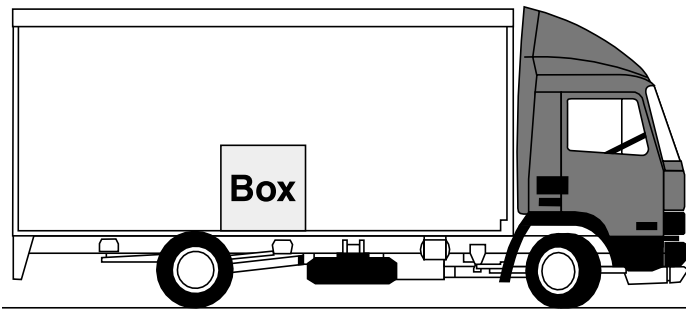
Released Items ..... A-40

[Back to Table of Contents](#)

# **Science and Technology**

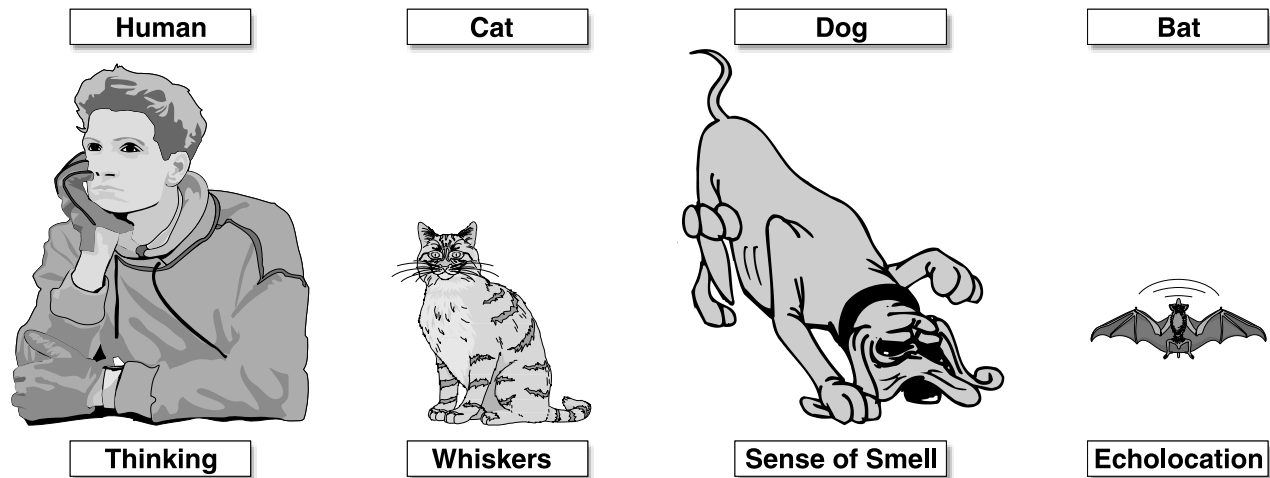
## **Released Items**

Use the picture below to answer question 1.



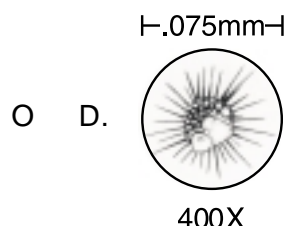
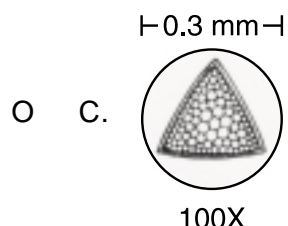
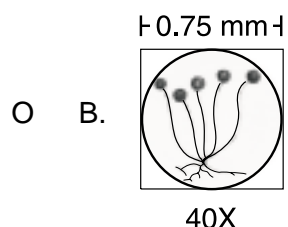
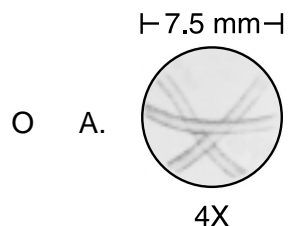
1. Suppose you place a box of weights in the middle of a truck and quickly accelerate the truck forward. How will the box move relative to the truck?
  - ☐ A. forward
  - ☐ B. backward
  - ☐ C. to the left
  - ☐ D. to the right
2. Which space object is **most** comparable to a rock?
  - ☐ A. a comet
  - ☐ B. a pulsar
  - ☐ C. a quasar
  - ☐ D. an asteroid
3. Native Americans planted corn, beans, and squash together in hills. The broad leaves of the squash kept weeds from growing by blocking the sunlight. The relationship between the squash plants and the weeds is an example of
  - ☐ A. predator-prey.
  - ☐ B. parasitism.
  - ☐ C. competition.
  - ☐ D. mutualism.
4. The color of the fur of rabbits living in the wild changes from brown to white in the winter months. A convincing argument to explain this adaptation might be that white rabbits
  - ☐ A. find more food in the winter.
  - ☐ B. are more difficult to trap in the winter.
  - ☐ C. absorb more solar energy in the winter.
  - ☐ D. are more difficult for predators to find in the winter.
5. A student lab team was given a candle to burn. The team was asked to observe the candle while it burned for 10 minutes. All of the following statements are observations **except**,
  - ☐ A. "The candle is 6.0 cm tall."
  - ☐ B. "Candles need air to burn."
  - ☐ C. "The candle flickers as it burns."
  - ☐ D. "There is a pool of liquid at the wick's base."

Use the pictures below to answer question 6.



6. Which system is involved with thinking, whiskers, sense of smell, and echolocation?
- ☐ A. nervous
  - ☐ B. muscular
  - ☐ C. endocrine
  - ☐ D. circulatory
7. Which of the following shows the order of size from the smallest to the largest?
- ☐ A. galaxy, solar system, star
  - ☐ B. star, galaxy, solar system
  - ☐ C. star, solar system, galaxy
  - ☐ D. solar system, galaxy, star
8. Scientists consider the giant water bug and the lobster to be members of the same group of animals because
- ☐ A. they both live in water.
  - ☐ B. they both have jointed legs.
  - ☐ C. they both can be seen without a microscope.
  - ☐ D. they both are nearly the same color.
9. Plants get the energy they need to live and grow from
- ☐ A. air.
  - ☐ B. soil.
  - ☐ C. water.
  - ☐ D. sunlight.
10. Scientists have proposed generating electricity in space by using solar panels and then sending the electricity to Earth by microwaves. Which would be an impact of this technological development on society?
- ☐ A. less space for government weather satellites
  - ☐ B. more dependence on natural resources
  - ☐ C. increased cost of research and development
  - ☐ D. greater probability of destructive weather phenomena

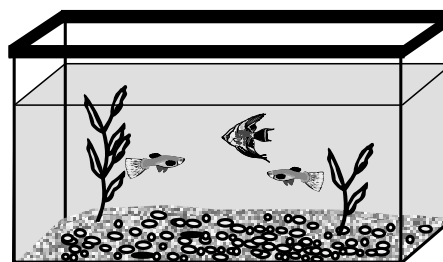
11. Which organism is the **largest** when viewed without a microscope?



12. Joanna is designing an experiment to see how force affects the motion of more massive and less massive carts. Which variable must she control?

- ☐ A. the distance each cart moves
- ☐ B. the mass of each cart
- ☐ C. the time each cart moves
- ☐ D. the amount of force on each cart

Use the picture below to answer question 13.



13. Which item would be the **best** choice to add to the aquarium to increase the chances of the goldfish's survival?

- ☐ A. snails
- ☐ B. more fish
- ☐ C. green plants
- ☐ D. more gravel

14. Musk oxen circling their young for protection against a predator is an example of

- ☐ A. parasitism.
- ☐ B. behavioral adaptation.
- ☐ C. structural adaptation.
- ☐ D. mutualism.

15. In which pair of kingdoms are the organisms mainly single-celled?

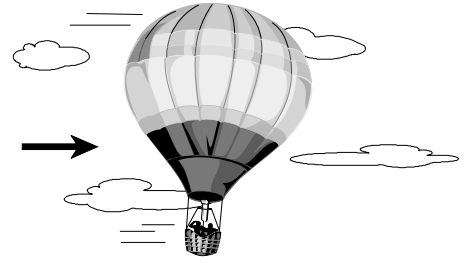
- ☐ A. animal and plant
- ☐ B. bacteria and protists
- ☐ C. protists and fungi
- ☐ D. fungi and bacteria

16. Which of the following cannot be seen by the Hubble Space Telescope?

- ☐ A. a comet
- ☐ B. a nebula
- ☐ C. an asteroid
- ☐ D. a black hole

Use the picture to the right and the formula below to answer question 17.

$$\text{Speed} = \frac{\text{distance}}{\text{time}}$$



17. A hot air balloon moves 500 meters in 100 seconds. What is the speed of the hot air balloon?

17.

18. Susie says that the life cycle and structure of a butterfly are more like a chicken's than a human being's. List **two** pieces of evidence that support this argument.

18.

19. Name **two** defense mechanisms the body uses to fight off microorganisms.

19.

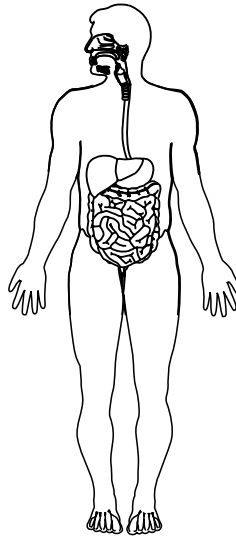
20. Based on the motion of Earth's Moon, name **two** motions a moon of Jupiter should be expected to have.

20.

21. List **one** way the periodic table groups elements by their characteristics.

21.

Use the picture below to answer question 22.



22. One of the human organ systems is the digestive system.

a. Name three organs of this system.

b. Describe the structure of each organ you have named and how it contributes to the function of the digestive system.

22.



23. You and your friend are planning a garden. The only space that you have to plant on is on the side of a hill. Your friend hypothesizes that if the rows are put across the hill the plants will grow better. You hypothesize that the rows should go up and down the hill.
- Design a controlled experiment to test which hypothesis is correct.

23.

Use the chart below to answer question 24.

**States of Matter**

Solid	Liquid	Gas	Plasma
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24. Compare the relative motion of particles in each state of matter. You may use labeled diagrams to support your answer.

24.

Use the pictures below to answer question 25.



tapeworm



louse



hookworm



flea

25. The above living things are examples of

- ☐ A. insects.
- ☐ B. parasites.
- ☐ C. decomposers.
- ☐ D. arthropods.

26. What is the **best** explanation to support the fact that a relatively small number of naturally occurring elements result in a large variety of substances?

- ☐ A. Elements are made up of many atoms.
- ☐ B. Atoms are made up of many particles.
- ☐ C. Elements combine in many ways to make many substances.
- ☐ D. Molecules are made up of many particles.

27. A dam is built to produce electrical energy. The greatest negative impact of this technological development is the

- ☐ A. flooding behind the dam.
- ☐ B. silt that builds up behind the dam.
- ☐ C. production of electricity for industry.
- ☐ D. traffic from construction vehicles.

28. Alex changed his car's oil and dumped the used oil in the backyard. What is the **most likely** environmental impact of this action?

- ☐ A. The oil will pollute the air.
- ☐ B. The oil will fertilize the soil.
- ☐ C. The oil will cause global warming.
- ☐ D. The oil will drain into the groundwater.

40. Imagine that at one time there were only blue flowers and blue butterflies. Over many years, several new colors of flowers developed.
- Describe the changes that may have occurred in the butterflies over time.
  - Explain in detail how those changes occurred, keeping in mind the processes of natural and artificial selection.

40.

41. One scientific idea being proposed is to generate electricity in space by using solar panels and then send it to Earth via microwaves. This may result in some positive and some negative changes.

Other scientific ideas being proposed include

- an early warning system for detecting and destroying Earth-bound asteroids,
- a car that runs on energy from hydrogen reacting in fuel cells,
- a base on the Moon to mine resources, conduct research, and support space travel, and
- a faster-growing tree resulting from genetic engineering.

These ideas also may result in some positive and negative changes.

- a. Choose **one** of the above scientific or technological ideas and describe **two** changes that may either positively or negatively impact society and/or the environment.
- b. Construct a logical argument either for or against the idea.

41.

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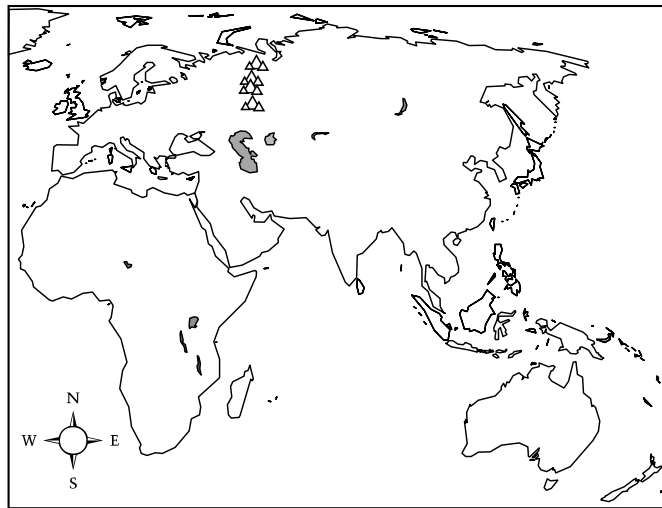
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# **Social Studies**

## **Released Items**

Use the map below to answer question 1.



**Key**

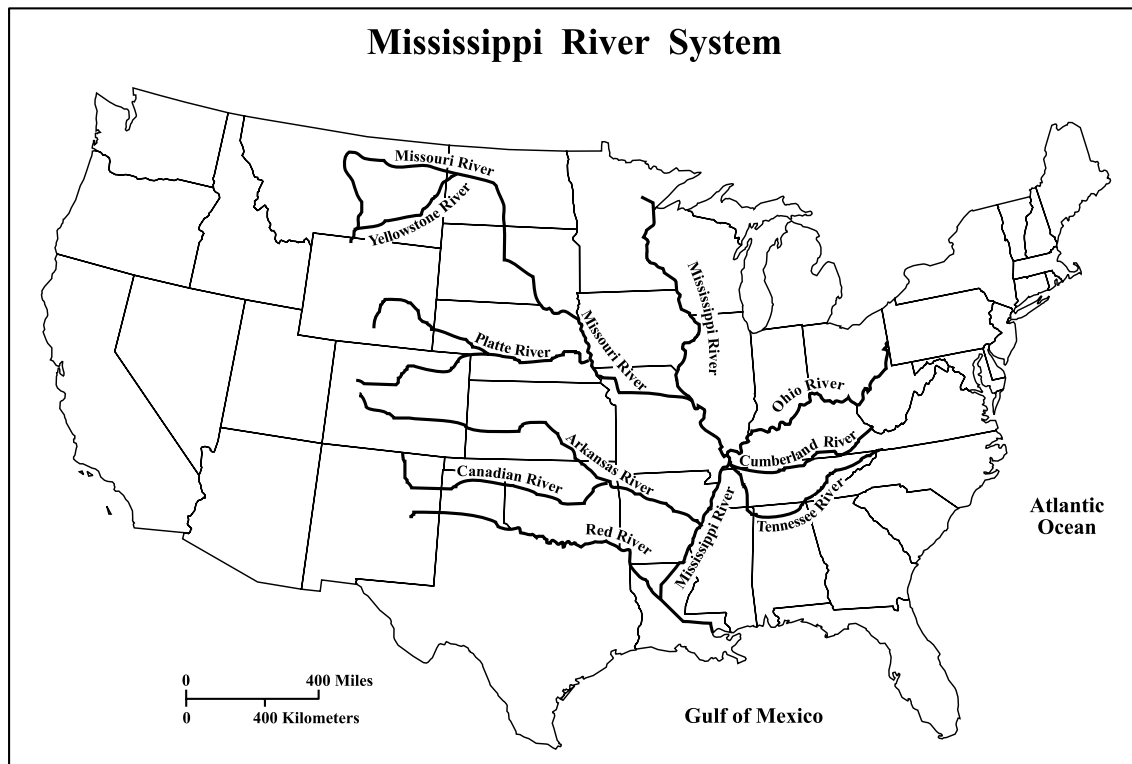
△ = Mountains

1. This map shows the mountain range that separates Europe and Asia. What is its name?
  - ☐ A. the Ural Mountains
  - ☐ B. the Alps
  - ☐ C. the Rocky Mountains
  - ☐ D. the Pyrenees Mountains
2. Jeff wants to make a budget for himself. He has figured out his monthly income. What is the next step in the budget-making process?
  - ☐ A. looking for a part-time job to work on weekends
  - ☐ B. buying everything he needs for the month
  - ☐ C. determining how much money he spends each month
  - ☐ D. getting a debit card for future purchases
3. If the state of Maine is involved in a legal action (court case), which official would represent the state?
  - ☐ A. the state treasurer
  - ☐ B. the attorney general
  - ☐ C. the speaker of the house
  - ☐ D. the governor
4. The Monroe Doctrine of 1823 formed a cornerstone of United States foreign policy. Why was the Monroe Doctrine established?
  - ☐ A. to prevent European powers from taking land in the Western Hemisphere
  - ☐ B. to aid Spain in its colonization of Central America and South America
  - ☐ C. to establish trade routes between South America and Asia
  - ☐ D. to encourage Europeans to buy land in the Western Hemisphere

5. What innovation, introduced in 1798, made the mass production of goods possible?
- ☐ A. spinning wheel
  - ☐ B. diesel locomotive
  - ☐ C. telegraph
  - ☐ D. interchangeable parts
6. Polly has developed a way to make excellent lobster stew and has started her own company to sell the stew in New England. In economic terms, Polly can **best** be described as
- ☐ A. a consumer.
  - ☐ B. an entrepreneur.
  - ☐ C. a policymaker.
  - ☐ D. an assembly-line worker.
7. Listed below are the effects of a particular event in American history.
- The United States won the respect of Great Britain and other foreign countries.
  - American ships traveled freely on the seas.
  - Americans experienced increased pride and a sense of national identity.
  - Francis Scott Key wrote "The Star-Spangled Banner."
  - Great Britain burned Washington, D.C.
- All of these effects are associated with the
- ☐ A. Louisiana Purchase.
  - ☐ B. American Revolution.
  - ☐ C. War of 1812.
  - ☐ D. ratification of the U.S. Constitution.
8. The United States government is a federal system, meaning that some powers are given to the national government, while all other powers are reserved for the individual states. Under the Articles of Confederation (1781), most powers were given to individual states and very few were given to the national government. Which of the following was one of the powers given **only** to the national government?
- ☐ A. to make treaties with foreign countries
  - ☐ B. to raise money by taxing people
  - ☐ C. to settle legal disputes within each state
  - ☐ D. to develop and enforce laws
9. Under the market system of supply and demand, who plays the **most important** role in determining what goods and services will be offered and how much will be produced?
- ☐ A. government agencies
  - ☐ B. consumers
  - ☐ C. factory workers
  - ☐ D. political party leaders
10. During the Middle Ages increases in trade helped European towns and cities grow and prosper. In most cities a guild system was organized. What was the purpose of the guild system?
- ☐ A. to regulate the operation of certain crafts and trades
  - ☐ B. to provide priests and nuns to serve the Church
  - ☐ C. to prepare young men to become knights and lords
  - ☐ D. to educate students in science and technology



Use the map below to answer question 11.



11. According to the map, which statement is true?

- ☐ A. The natural boundary between the states of Kentucky and Tennessee is the Mississippi River.
- ☐ B. Illinois, Missouri, and Kentucky all meet at the junction of the Ohio River and the Mississippi River.
- ☐ C. Minnesota, South Dakota, and Iowa all meet at the junction of the Mississippi River and the Missouri River.
- ☐ D. The natural boundary between the states of Missouri and Illinois is the Ohio River.

12. The United States has a government based on the idea of "popular sovereignty." Which of the following best describes "popular sovereignty"?

- ☐ A. globalism
- ☐ B. capitalism
- ☐ C. consent of the governed
- ☐ D. executive authority

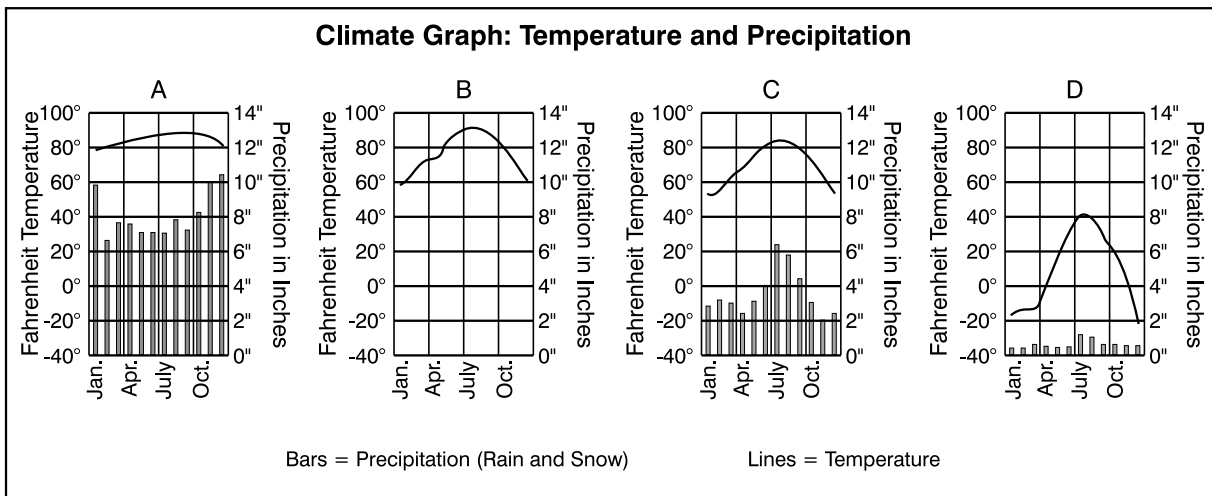
13. All of the following are characteristics of Stone Age civilizations **except**

- ☐ A. people hunted wild animals and gathered food.
- ☐ B. people used fire to keep warm.
- ☐ C. people kept written records.
- ☐ D. people made tools from sticks and stones.

14. There are different levels of government in the United States. Which level of government has the power to levy tariffs on international trade?

- ☐ A. city/town
- ☐ B. county
- ☐ C. state
- ☐ D. federal

Use the climate graphs below to answer question 15.



15. A tropical climate has high temperatures and a great amount of rain. According to the climate graphs, which city has a tropical climate?

- ☐ A. City A
- ☐ B. City B
- ☐ C. City C
- ☐ D. City D

Use the chart below to answer question 16.

**Communication in European Countries**

Country	Number of Televisions per 1,000 People	Number of Radios per 1,000 People	Number of Telephone Lines (in millions)	Number of Newspapers per 1,000 People
?	612	1,194	32	383
Sweden	476	844	6	515
France	579	860	34	235
Germany	551	1,836	46	375

Source: *The World Almanac and Book of Facts 2000*

16. Because of technology, communication is easier in some countries than in others. Another European country where communication is easy is missing from the chart above. This country is **most likely**

- ☐ A. Bosnia.
- ☐ B. Romania.
- ☐ C. Russia.
- ☐ D. United Kingdom.

17. On a map, what are the horizontal and vertical lines used to locate places called?

17.

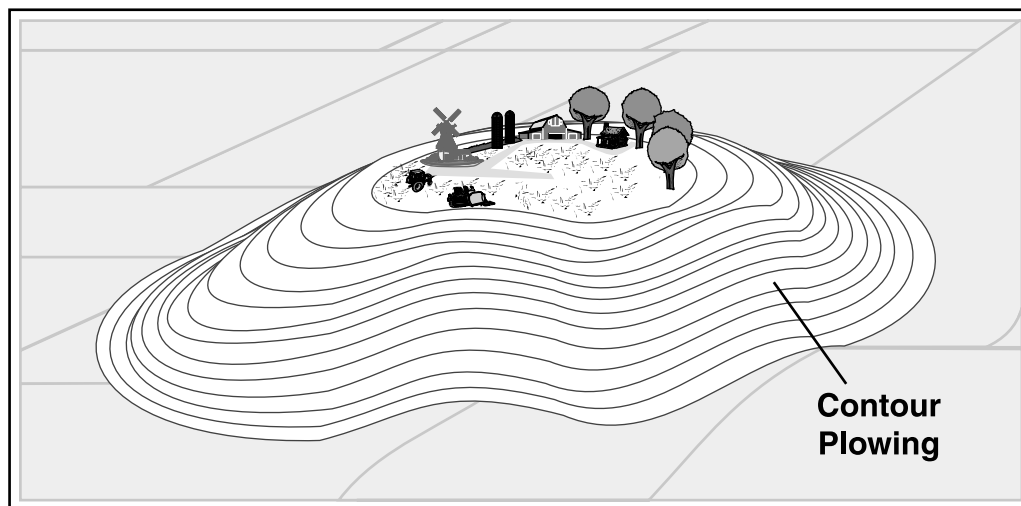
18. There are three branches of our federal government: the legislative, the executive, and the judicial.

a. Choose one branch and write the name of the branch you chose.

b. Describe one power that the U.S. Constitution gives that branch to carry out foreign policy.

18.

*Use the picture below to answer question 19.*



19. This picture shows contour plowing. Why is this method of farming important to use on slopes?

19.

20. In order to prevent one branch of our government from becoming too powerful, a system of checks and balances was established in the U.S. Constitution. Describe one example of checks and balances.

20.

21. Most states have specialized in producing certain goods and services.

Briefly describe two reasons why Maine has traditionally specialized in shipbuilding.

21.

Use the map below to answer question 22.



22. Five cities are identified on the map. Choose one.
- Write the name of the city you have chosen.
  - Identify two geographic factors that affected the original decision to locate the city where it is, **or** identify two geographic factors that affected the growth of the city.
  - Explain why each factor named in part b was important to the original location **or** the growth of the city.

22.

[illegible]

Historians often refer to the Golden Ages in Greece, China, and India. Look at the chart below that gives information about the Golden Age of three classical civilizations. Then answer question 23.

### Golden Ages of Classical Civilizations

Civilization	Approximate Dates of Golden Ages	Major Accomplishments	Major Thinkers and/or Ideas	Kind of Government
Greece	460 B.C.–429 B.C.	Grew wealthy from trade; highly developed art such as pottery and sculptures; buildings such as Parthenon; writings such as plays, myths, and poetry	Plato: how to set up and run governments; how to think for oneself Socrates: people should question ideas Hippocrates: health-care ideas	Limited democracy; city-states
China	A.D. 618–A.D. 1279	Grew wealthy from trade; invented woodblock print that made books possible; magnetic compass; writings such as encyclopedias, histories, and poems; art/porcelain bowls, painting on silk	Confucius: family is center of life and members care for one another	Ruled by emperors
India	A.D. 320–A.D. 413	Built cities, roads, and universities throughout empire; became world center of art and learning; many paintings and sculptures; writings included poems, stories, fables, and plays; developed decimal number system; medical advances	Hinduism: caste system; all living things have a soul that never dies; born into higher caste Buddhism: people are equal	Family of emperors

23. The term “golden age” refers to a time during which a civilization thrives.
- Give two examples of information provided in the chart that show these civilizations were in golden ages.
  - Identify two similarities in the golden ages in the chart.

23.

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Continue your answer on the next page.

23. (continued)

24. In 1869, when the transcontinental railroad opened, it brought with it many economic benefits for the United States.
- Briefly describe the building of the transcontinental railroad.
  - Describe two ways the railroad benefited the United States economy.

24.

25. Which formula would equal the highest rate of population growth in a country?

- ☐ A. low birthrate + declining death rate
- ☐ B. high birthrate + declining death rate
- ☐ C. low birthrate + increasing death rate
- ☐ D. high birthrate + increasing death rate

26. The list below identifies incidents that led to a war.

- publication of *Uncle Tom's Cabin*
- election of Abraham Lincoln
- passing of Kansas-Nebraska Act

What war did these events lead to?

- ☐ A. the Civil War
- ☐ B. the War of 1812
- ☐ C. the American Revolution
- ☐ D. the French and Indian War

27. In early civilizations, as a result of people specializing in doing one kind of job, people began to trade for goods and services they could not produce for themselves.

What was the economic effect of this **specialization**?

- ☐ A. economic interdependence
- ☐ B. decreased economic production
- ☐ C. economic isolation
- ☐ D. decreased economic benefits

28. There are certain duties that a citizen of the United States is required by law to do or face legal penalties. Which of the following is a required **duty** of a citizen of the United States?

- ☐ A. voting in elections
- ☐ B. serving on a jury
- ☐ C. voicing opinions about government policies
- ☐ D. running for government office



40. You are trying to explain the basic principles of democracy to a new student who has moved here from another country.
- Write a one-sentence definition of democracy.
  - Explain one basic principle of democracy.
  - Explain why this principle is important.

40.

41. There were many causes that led to the American Revolution, such as

- the Stamp Act,
- the Boston Tea Party,
- the Boston Massacre, and
- the Quartering Act.

a. Pick two of the causes from the list above, and write down the two you chose.

b. For **each**, explain how it led the colonists into war with Great Britain.

41.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# **Mathematics**

## **Released Items**

1. Which is greatest?

- ☐ A.  $100 + (-16.7)$
- ☐ B.  $100 - (18.3)$
- ☐ C.  $100 \times 0.531$
- ☐ D.  $100 \div 0.23$

2. Compute:

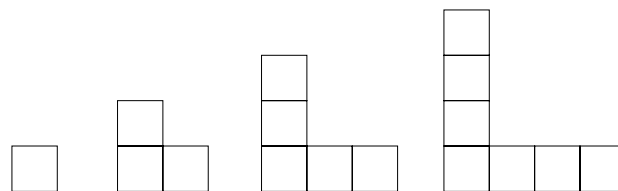
$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16}$$

- ☐ A.  $\frac{4}{16}$
- ☐ B.  $\frac{1}{30}$
- ☐ C.  $\frac{15}{16}$
- ☐ D.  $\frac{4}{30}$

3. How many **prime numbers** are between 6 and 15?

- ☐ A. 1
- ☐ B. 2
- ☐ C. 3
- ☐ D. 4

The first four terms of a tile pattern are shown below.  
Use the pattern to answer question 4.



Term 1

Term 2

Term 3

Term 4

4. Which rule describes the number of tiles in the  $n$ th term?

- ☐ A.  $2n - 1$
- ☐ B.  $2n - 2$
- ☐ C.  $n$
- ☐ D.  $n + 2$

5. What is the value of the expression below?

$$6 + 2 \times 9 - 8 \div 2$$

- ☐ A. 32
- ☐ B. 20
- ☐ C. 8
- ☐ D. 4

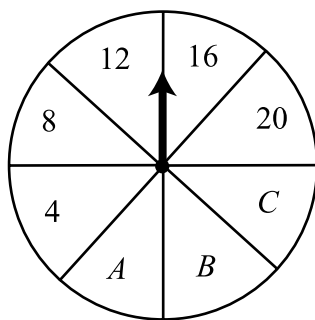
9. a. Express  $4^3$  as a whole number.  
b. If  $2^x = 32$ , what is  $x$ ?

9.

10. a. What is the **greatest common factor** (GCF) of 15 and 20?  
b. What is the **least common multiple** (LCM) of 14 and 35?

10.




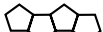
Use the spinner shown below to answer question 11.



11. a. What is the probability of spinning a letter?  
 b. What is the probability of spinning a multiple of 8?

11.

Use the table below to answer question 12.

TRAIN	NUMBER OF PENTAGONS	PERIMETER
	1	5
	2	8
	3	11
	4	14

12. a. What is the perimeter of a train of 5 pentagons?  
 b. Write an algebraic expression for the perimeter of a train of  $n$  pentagons.

12.

13. Solve for  $x$  in the inequality below. Show your work or explain the steps you used to solve the inequality.

$$3x - 21 < 3$$

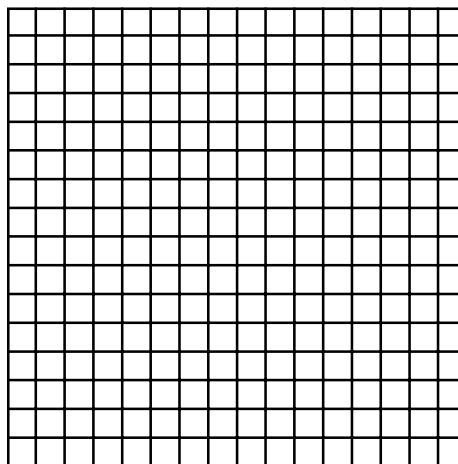
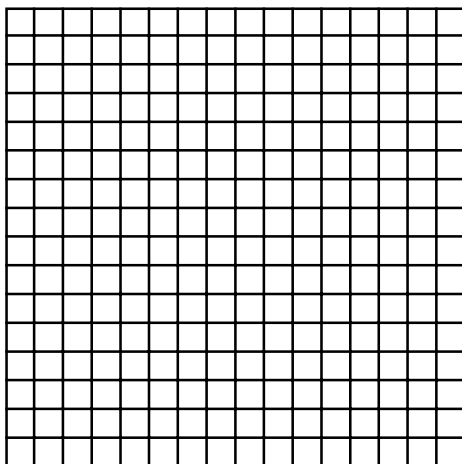
13.

Use the table below to answer question 16.

YEAR	AVERAGE GLOBAL TEMP. (°F)
1880	58.1°F
1900	58.6°F
1920	58.8°F
1940	59.2°F
1960	59.4°F
1980	59.7°F

16. Use the grids below to answer this question. On both grids, put Year along the horizontal axis.
- Suppose you were creating a graph to go with an article claiming that the average global temperature is rising at an alarming rate. Graph the data so it appears that the average global temperature is rising rapidly.
  - Suppose you were creating a graph to go with an article claiming that the average global temperature is not rising quickly. Graph the data so it appears that the average global temperature is rising very slowly.

16.



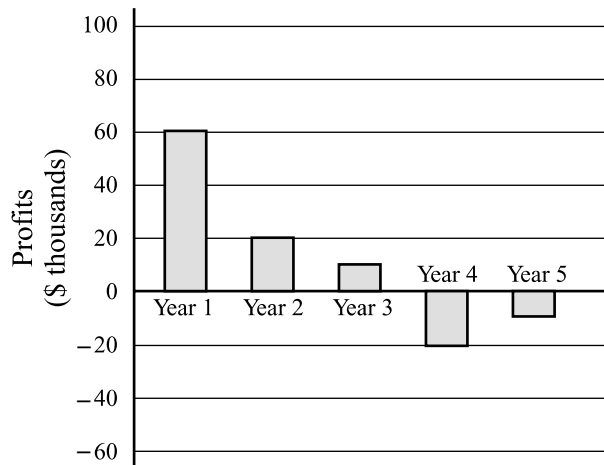


17. Use the protractor and ruler on the Mathematics Reference Sheet to draw a trapezoid with a base length of 4 inches, a leg of  $1\frac{3}{4}$  inches, and base angles of  $45^\circ$  and  $70^\circ$ . Label the  $45^\circ$  and  $70^\circ$  angles and the 4-inch and  $1\frac{3}{4}$ -inch sides.

17.

Use the graph below to answer question 19.

GLIDE-RIGHT SKI SHOP  
PROFITS



19. The **profit** for a store is shown on this graph. How much less were the store's profits in Year 5 than in Year 1?

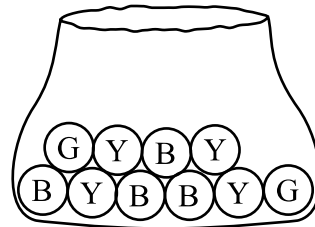
- ☐ A. \$ 5 thousand
- ☐ B. \$ 10 thousand
- ☐ C. \$ 70 thousand
- ☐ D. \$ 105 thousand

20. The library committee had a fund-raiser. Each of the four students on the committee was given three cases of pencils to sell. A case of pencils sells for \$3.00. What were their **total sales** if the individual sales were

- Kate,  $\frac{1}{2}$  case;
- Paul,  $\frac{3}{4}$  case;
- Sam,  $2\frac{1}{2}$  cases; and
- Stacey,  $1\frac{1}{4}$  cases?

- ☐ A. \$ 5.00
- ☐ B. \$ 6.00
- ☐ C. \$ 9.00
- ☐ D. \$ 15.00

Use the picture below to answer question 21.



21. The marbles marked G are green, B are blue, and Y are yellow. What is the probability of drawing a marble that is **not** blue?

- ☐ A. 80%
- ☐ B.  $\frac{3}{5}$
- ☐ C.  $\frac{2}{5}$
- ☐ D. 20%

22. Marvin purchased the following items:

- shirt for \$16.20
- slacks for \$21.50
- socks for \$2.80

If the sales tax is 6%, what is his total bill?

- ☐ A. \$ 2.43
- ☐ B. \$ 24.30
- ☐ C. \$ 42.93
- ☐ D. \$ 48.38

Use the menu below to answer question 23.

<b>~ MENU ~</b>	
<b>MAIN DISHES.....</b>	<b>\$2.25</b>
Pizza, Tacos, Meatloaf	
<b>SIDE DISHES.....</b>	<b>\$0.50</b>
French Fries, Salad	
<b>DRINKS.....</b>	<b>\$0.75</b>
Chocolate Milk, White Milk, Juice	
<b>~ SPECIAL ~</b>	
<b>COMPLETE MEAL.....</b>	<b>\$3.00</b>
1 Main Dish, 1 Side Dish, 1 Drink	

23. The school cafeteria has this lunch menu. A complete meal includes 1 main dish, 1 side dish, and 1 drink. How many different combinations of complete meals are available?

- ☐ A. 1
- ☐ B. 3
- ☐ C. 8
- ☐ D. 18

24. Which description best describes the expression  $2n + 5$ ?

- ☐ A. the sum of twice a number and five
- ☐ B. a number squared plus five
- ☐ C. two times the sum of five and a number
- ☐ D. five more than two numbers

Use the table below of normal temperatures for Caribou, Maine, to answer question 25.

Month	Temperature
Jan.	11°F
Feb.	13°F
Mar.	24°F
Apr.	37°F
May	50°F
Jun.	60°F
Jul.	65°F
Aug.	63°F
Sep.	54°F
Oct.	43°F
Nov.	31°F
Dec.	16°F

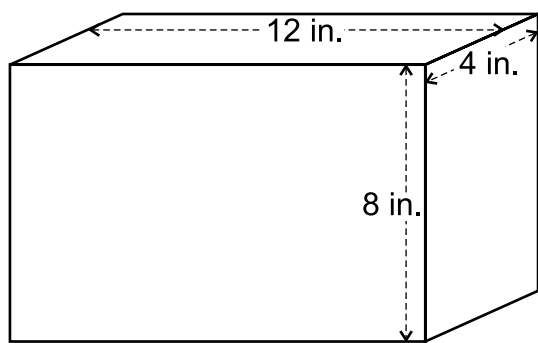
25. Which of the following is the approximate **mean** normal temperature for the entire year in Caribou, Maine?

- ☐ A. 65°F
- ☐ B. 40°F
- ☐ C. 25°F
- ☐ D. 15°F

26. If  $a = 4$ ,  $b = 3$ ,  $c = 5$ , and  $d = 5$ , what is the value of  $\frac{abc^2}{d}$ ?

☐ A. 60  
☐ B. 24  
☐ C. 6  
☐ D. 5

Use the picture below to answer question 27.



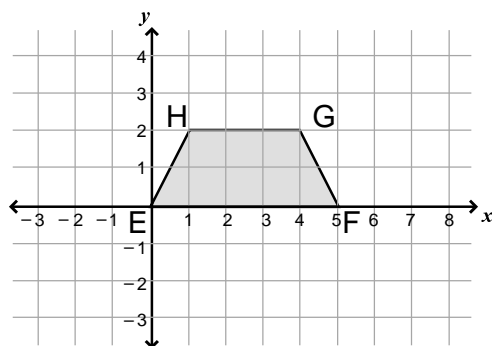
27. Sally wishes to keep her blocks in a box. She found a box with the interior dimensions shown above. How many blocks measuring one inch on each side will fit into the box?

☐ A. 24 blocks  
☐ B. 32 blocks  
☐ C. 352 blocks  
☐ D. 384 blocks

28. In 1970, the population of Maine was approximately 1 million. It is now reported to be approximately 1.2 million. What is the **percent of increase** in population since 1970?

☐ A. 2%  
☐ B. 12%  
☐ C. 20%  
☐ D. 83%

Use the figure below to answer question 29.



29. What would be the coordinates of point H if figure EFGH were **translated** (slid) 2 units to the left?

☐ A.  $(-2,1)$   
☐ B.  $(-1,2)$   
☐ C.  $(-2,-2)$   
☐ D.  $(-1,-1)$

30. What is the next term in this pattern?

1, 4, 9, 16, 25, . . .

☐ A. 28  
☐ B. 30  
☐ C. 36  
☐ D. 41

Use the table below to answer question 31.

$x$	$y$
2	10
0	?
-1	1

31. The rule for this table is  $y = 3x + 4$ . What number should replace the question mark in the  $y$  column?

☐ A. 4  
☐ B.  $4\frac{1}{2}$   
☐ C. 5  
☐ D.  $5\frac{1}{2}$

32. What is the solution to this equation?

$$3x + 7 = -5$$

- ☐ A. 4
- ☐ B.  $\frac{2}{3}$
- ☐ C.  $-\frac{2}{3}$
- ☐ D. -4

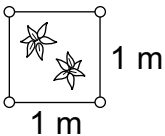
33. Chris put these cards in a box.

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

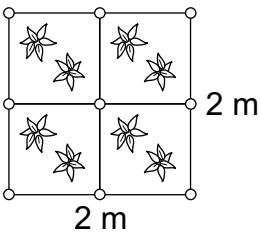
Without looking, he draws a card from the box. What is the probability he will draw a card showing a **multiple of 4**?

- ☐ A.  $\frac{4}{9}$
- ☐ B.  $\frac{2}{9}$
- ☐ C.  $\frac{1}{9}$
- ☐ D. 0

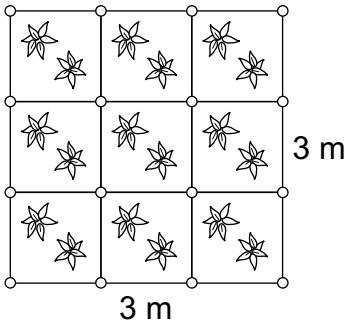
40. A square garden 1 meter on each side would need 4 sections of fencing and could support the growth of 2 tomato plants as shown at the right.



If each side of the garden is increased to 2 meters, the number of sections of fencing needed is 12 and the number of tomato plants it can support is 8.



If each side of the garden is increased to 3 meters, the number of sections of fencing needed is 24 and the number of tomato plants it can support is 18.



- Complete the table below.
- How many tomato plants can be supported if the garden measures 100 meters on each side? Explain your answer or show calculations.
- How many tomato plants can be supported if the garden measures  $n$  meters on each side?

40.

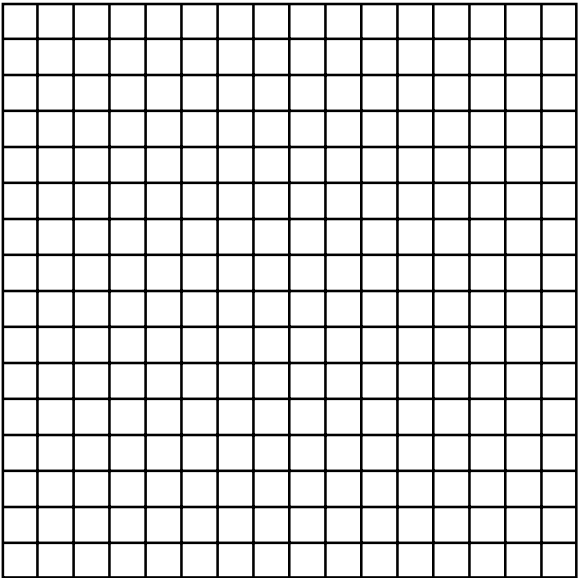
LENGTH OF EACH SIDE	NUMBER OF SECTIONS OF FENCING NEEDED	NUMBER OF TOMATO PLANTS
1 m	4	2
2 m	12	8
3 m	24	18
4 m		
5 m		

41. The computer club at school designed a Web site to provide information to students about school activities, events, schedules, assignments, etc. The club decided to keep track of the number of students who accessed the Web site each week. The results are shown in the table below.

Week	Number of students accessing the Web site
1	21
2	75
3	104
4	152
6	204
7	240
10	290

- On the grid below, plot the data. Be sure to indicate your scale and use appropriate labels. Notice that the data from Weeks 5, 8, and 9 are missing.
- The club did not record the actual number of students who accessed the Web site during Week 5. Week 5 was typical of the data recorded. Estimate the number of students who accessed the site during Week 5. Explain how you found your answer.
- If the trend shown in your graph continues, what is the most likely number of students who will access the site during Week 13? Explain how you found your answer.

41.



# **Visual and Performing Arts**

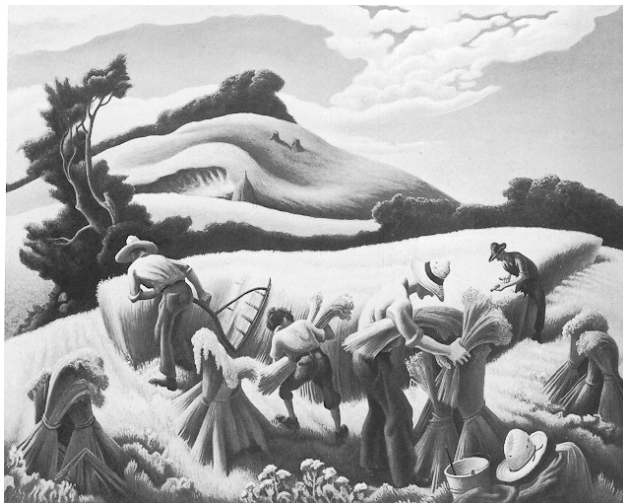
## **Released Items**



Use the two landscapes below to answer question 1.



**A**



**B**

1. Look at the landscapes above, labeled A and B. Describe two similarities and two differences in the two landscapes.

1.

2. Music is used in theater, movies, and television programs to help define the feelings or emotions of the characters, such as love, anger, joy, sorrow, grief, frustration, or loneliness.
- List two emotions. (You may choose from those mentioned above or select other emotions.) For **each** emotion, list an instrument that could be used to express it.
  - Explain why these instruments are best for expressing the emotions.

2.